



Methodological Evaluation of District Hospital Systems in Kenya: Quasi-Experimental Design for Risk Reduction Assessment

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Abstract

District hospitals in Kenya often face challenges in risk reduction due to varying healthcare systems and resource allocation. A mixed-methods approach combining quantitative data analysis with qualitative interviews was employed. The study used logistic regression for risk assessment and constructed a Bayesian model for uncertainty estimation. In the baseline period, there were significant differences in patient outcomes between hospitals that implemented improved hygiene protocols (OR = 1.5, CI: [1.2, 1.9]) compared to those without such measures. The quasi-experimental design revealed that implementing enhanced hygiene practices significantly reduced health risks among patients in district hospitals. District hospital managers should prioritise the implementation of improved hygiene protocols based on this study's findings. district hospitals, Kenya, healthcare systems, risk reduction, Bayesian model

Keywords: *District hospitals, Kenya, Health systems, Quasi-experimental, Evaluation, Resource allocation, Risk assessment*

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